

conspicuous tubers which are utilized for food. The plants are always more or less immersed, varying in the mechanical structure of the culm from terete jointed types which have a superficial resemblance to species of *Equisetum*, to sharply triangular or quadrangular forms. They occur chiefly in warm temperate or subtropical regions from which they extend into the tropics and into the cooler temperate regions. The center of distribution is apparently in subtropical and warm-temperate eastern America, but three species occur in temperate North America along the Atlantic Coastal Plain and inland to the Great Lakes or the Mississippi Valley; *E. Robbinsii*, which has the greatest range, extending to Nova Scotia, Ontario and Michigan. In Florida alone there are five distinct species (*E. elongata*, *E. Robbinsii*, *E. cellulosa*, *E. equisetoides* and *E. quadrangulata*). Many are superficially alike and there has been a tendency to consider Old World and New World species as identical. However, *E. fistulosa* seems to be the only one common to both hemispheres.

## EXPLANATION OF PLATE 188

(Achenes  $\times 10$ )

Fig. 1, *ELEOCHARIS EQUISETOIDES*, Massachusetts, *Morong*; 2, *E. INTERSTINCTA*, Cuba, *Wright* 710; 3, *E. FISTULOSA*, Ceylon, *Thwaites* 3162; 4, *E. QUADRANGULATA*, Massachusetts, *Pl. Exsicc. Gray*, 133; 5, *E. ROBBINSII*, Massachusetts, *Fernald*, 16,296; 6, *E. ELONGATA*, Florida, *Nash* 944; 7, *E. PLICARHACHIS*, Cuba, *Wright*, 3372; 8, *E. MUTATA*, Porto Rico, *Sinten's* 4942; 9, *E. PHILIPPINENSIS*, Luzon, *Ramos* 1112; 10, *E. VARIEGATA* var. *LAXIFLORA*, Ceylon, *Thwaites* 3762; 11, *E. CELLULOSA*, Florida, *Curtiss* 6540; 12, *E. SPIRALIS*, Borneo, *Clemens* 9716; 13, *E. FISTULOSA* var. *ROBUSTA*, Djur, *Schweinfurth* 2326; 14, *E. EQUISETINA*, Philippines, *Elmer* 14,341; 15, *E. SPHACELATA*, New Zealand, *Kirk* 208; 16, *E. DULCIS*, Japan, *Watanabe*.

(To be continued.)

TWO VARIANTS OF *RANUNCULUS RECURVATUS*

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*RANUNCULUS RECURVATUS* Poir., as it occurs commonly in moist woodlands and along shaded brooks, has the stem villous with spreading, mostly 2-3-celled hairs, and is described as "pubescent" by Poiret and subsequent authors. As in many other cases, however, this pubescence is variable in quantity, and Mr. E. B. Harger has called my attention to the existence of a form in which the stem is wholly glabrous, at least up to the first flower-bearing branch. It differs from the typical form in no other respect than lack of pubes-



cence and is connected with it by various intermediate stages; and, so far as the material in the Gray Herbarium shows, it has no distinctive range, but is likely to appear throughout the range of the species. It can, therefore, hardly claim systematic rank above that of forma; but since its existence quite upsets one of the key characters given for the species in current manuals, it appears to demand some recognition. With Mr. Harger's assent, it is here proposed as

*RANUNCULUS RECURVATUS* Poir., f. **laevicaulis** Harger, n. f., caule saltem infra ramum infimum floriferum omnino glabro.—NEW HAMPSHIRE: edge of rocky brook in woods, Hinsdale, June 9, 1920, *C. F. Batchelder* (herb. N. E. Bot. Club). VERMONT: wet woods, Montpelier, June 5, 1913, *C. H. Knowlton* (N. E. B. C.). MASSACHUSETTS: by brook, Whately, May 17, 1913, *Fernald & Harger*, TYPE in hb. N. E. B. C. (also a mixed sheet in Herb. Gray). CONNECTICUT: wet woods, Salisbury, June 6, 1915, *Weatherby*, no. 3630 (herb. Weatherby). VIRGINIA: deep, shaded ravine by stream, Williamsburg, June 10, 1920, *Grimes*, no. 2688 (Gray Herb.).

In the course of looking up the above form, it became apparent that there is in the Alleghanian region from central New York to western Virginia a rather stronger variant in which the stem and petioles bear short, closely appressed, mostly unicellular hairs. Since this plant shows a difference in type, not merely in quantity, of pubescence and seems to have a distinctive range (there is no trace of it in the abundant New England collections at Cambridge) it may stand as a variety and is here proposed as

*RANUNCULUS RECURVATUS* Poir., var. **adpressipilis**, n. var., caule petiolisque pilis brevibus arcte adpressis plerumque unicellularibus ornatis.—NEW YORK: open, sedgy woods, east of McLean, Groton, Tompkins Co., June 6, 1913, *Eames & MacDaniels*, no. 481. WEST VIRGINIA: near Travelers' Repose, Pocahontas Co., Sept. 19, 1904, *Greenman*, no. 365. VIRGINIA: Hungry Hollow, alt. 2200 ft., northeast of Marion, Smyth Co., May 24, 1892, *Small*, TYPE in Gray Herb. (as are all the specimens cited).

The following key will serve to summarize the characters of the variants here discussed.

Stem with spreading, mostly 2-3-celled hairs, or glabrous.

Stem more or less villous throughout . . . . . *R. recurvatus*.

Stem completely glabrous up to the first flowering branch . . . f. *laevicaulis*.

Stem and petioles with closely appressed, mostly unicellular hairs.

var. *adpressipilis*.

#### GRAY HERBARIUM.

*Vol. 31, no. 367, including pages 121 to 144 and plate 188, was issued 8 July, 1929.*